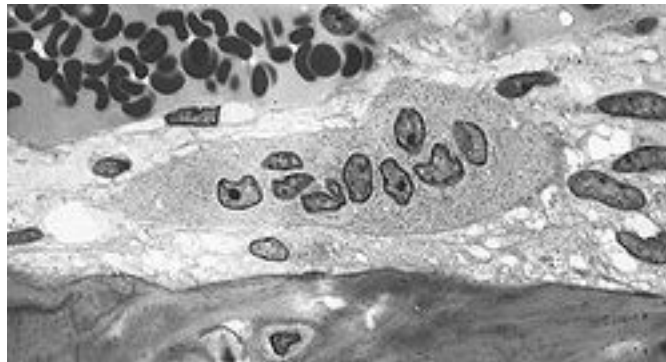


Osteoclasts

Osteoclasts are large bone cells formed in the marrow of the bone. Similar in structure to white blood cells, they are responsible for breaking down bone tissue, which is required for bone growth and healing. They start out as smaller cells called osteoclast precursors, but fuse together into osteoclasts with multiple nuclei when they find places on the bone that need to be broken down, a process called resorption.



Although the number of osteoclast cells is relatively small, they are vital not only for the formation of new bone but also for helping to regulate minerals in the bloodstream. As these cells break down bone, they release calcium and phosphate into the blood, where these minerals play an important role in many biochemical processes. Osteoclasts are also involved in the development of red blood cells in the bone marrow.

Research also suggests that osteoclasts have immune receptors, and that there are close ties between the immune and skeletal systems. Exactly how the two interact is still being studied, although studies on autoimmune diseases like rheumatoid arthritis show how the immune system can affect bone resorption. Osteoclasts are linked to other diseases as well; when they break down bone faster than it can be rebuilt, for example, osteoporosis is the result.

<http://www.wisegeek.com/what-are-bone-cells.htm>